OPTIMASI EKSTRAKSI MINYAK BIJI BUNGA MERAK *(Caesalpinia pulcherrima L.)* SEBAGAI ALTERNATIF SUMBER MINYAK

OPTIMATION EXTRACTION OF "BARBADOS PRIDE " (Caesalpinia pulcherrima L.) SEED OIL AS AN ALTERNATIVE SOURCE OF VEGETABLE OIL

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Abtract

The aims of this investigation are to determine the influence of the extraction time towards yield, to determine oil physico-chemical and composition identification of Caesalpinia pulcherrima L. seeds oil. Data were analyzed with Randomized Completely Block Design (RCBD), 6 treatments and 4 repetitions. As treatments are variations of extraction periods are 3 ; 6 ; 9 ; 12 ; 15 and 18 hours , and as the block is the time of analysis. Chemical composition of Caesalpinia pulcherrima L. seeds oil was identified by Gas Chromatography-Mass Spectrometry (GC-MS). The result of this investigation shows that the optimum yield is 7,24 ± 1,11 % on 12 hours of extraction. Extraction periods did not influence the physical characteristics of Caesalpinia pulcherrima L. seeds oil, The characteristic of the seed oil showed that the oil have oil water content 0,06 ± 0,02 % ; density 0,77 ± 0,06 g / mL; acid number 19,20 ± 0,64 mg NaOH/ g; peroxide number 25,83 ± 1,26mgek/kg; lathering number 90,38 ± 0,39 mg KOH/ g. The result purification of Kembang Merak seeds oil the nature of the physio-chemical oil produced in the most optimal yield with a 12 hour extraction; loss fat ; 24,2 %; the number of acid 7,655 mg NaOH / g fat ; the number of peroxide 277,39 mgek / kg , the number of lathering 73,4564 mg KOH / g of fat. The result of GC-MS shows that Caesalpinia pulcherrima L. seeds oil contains of 6 main components are 9,12-oktadekadienoic acid 60,66% (Linoleic acid), heksadekanoic acid 19,58 % (palmitic acid), oktadekanoic acid 13,11 % (stearic acid);12- oktadekanoic acid 4,49% (oleic acid); eikosanoic acid 1,15 % (arachidic acid); 9-heksadekenoic acid 1,02 % (palmitoleic acid).

Keywords :Caesalpinia pulcherrima L. seeds, extract, GC-MS, oil, physico-chemical yield